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CLAIMS

We claim:

- 5 1. A gas burner, said burner comprising a metal burner membrane, said membrane comprising a base section having a smallest radius of curvature being R_{base} and a closing section, characterised in that said membrane being uninterrupted comprises a transition region for connecting said base section to said closing section, said transition region having a smallest radius of curvature $r_{transition}$ being larger than zero and being smaller or equal to said R_{base} .
- 10 2. A gas burner as in claim 1, wherein said membrane comprises a fabric comprising stainless steel fibres.
3. A gas burner as in claim 2; wherein said stainless steel fibres are arranged essentially parallel into bundles.
- 15 4. A gas burner as in claim 3, wherein said bundles are knitted or braided or woven.
5. A gas burner as in claim 1, wherein said membrane comprises a foraminated plate or sheet.
- 20 6. A gas burner as in claim 1, wherein said burner membrane comprises a foraminated plate, said transition region is at the outside disposed with stainless steel fibres.
7. A gas burner as in claim 6, wherein said base section and said closing section are at least partially disposed with stainless steel fibres.
- 25 8. A gas burner as in any one of claims 6 to 7, wherein said stainless steel fibres are arranged essentially parallel into bundles.
9. A gas burner as in claim 8, wherein said bundles are knitted or braided or woven.
- 30 10. A gas burner as in any one of claims 1 to 9, wherein said base section has a frustoconical shape.
11. A gas burner as in any one of claims 1 to 9, wherein said base section has a cylindrical shape.

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12. A gas burner as in claim 10 or 11 wherein said transition region is part of a torus surface delimited by two planes perpendicular to the axis of symmetry of said torus.
- 5 13. A gas burner as in any one of claims 1 to 9, wherein said base section has a polygonal cross section, the corners of said cross section being rounded.
14. A gas burner as in claim 1 to 9, wherein said base section has a rectangular cross section, the corners of said cross section being rounded.
- 10 15. A gas burner as in any one of claims 1 to 9, wherein said base section is a truncated pyramid, said pyramid having rounded edges